



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Examiner: Shumaya B. ALI
Group Art Unit: 3743

In re Application of: BLOMQUIST, Inge

Serial No: 10/672,835

Filing Date: 18 SEPT 2003

For: Breathing-Speaking Valve

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Susan Vanderwalker 20 Sept 2006
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APPEAL BRIEF

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Commissioner of Patents and Trademarks
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Alexandria, VA 22313-1450

Dear Commissioner:

Appellants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decisions of the Examiner of Groups Art Unit 3743 dated April 6, 2006, rejecting Claims 1-6. Please charge the fee of \$250 (small entity) for filing this brief and all other fees that may be required to Deposit Account No. 02-0400. When identifying such a withdrawal, please use our Attorney Docket No. BLOM-105-US.

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I.

REAL PARTY IN INTEREST

The real party in interest is AB Fogless International, the assignee of the patent application at issue. AB Fogless International is a corporation having a place of business at Box 4406, S-165 15 Hasselby, Sweden.

II.

RELATED APPEALS AND INTERFERENCES

There are no related Appeals or Interferences with regard to the present application.

III.

STATUS OF CLAIMS

Claims 1-6 were originally filed in this application. In a first office action indicated as having been mailed on June 14, 2005, the Examiner rejected Claims 1-3 as being anticipated by U.S. Patent No. 4,971,054 ("Andersson") and Claims 4-6 as being obvious over Andersson. In a January 17, 2006 response to the first office action, the Applicant amended the claims to remove reference numerals and to provide antecedent basis for the terms "longitudinal direction" and "space" in Claim 1. In an office action indicated as having been mailed on April 6, 2006, the Examiner finally rejected Claims 1-6 on the same basis as in the first office action. The Applicants then mailed an amendment and response to the final office action on June 6, 2006, in order to provoke an advisory action. In the June 6, 2006 amendment and response, the Applicant amended Claim 1 for reasons unrelated to the Examiner's rejection. In an advisory action indicated as having been mailed on July 14, 2006, the Examiner refused to enter the June 6, 2006 Amendment on the basis that "Amended claim 1 cites narrower limitation, which would require additional search."

In summary, Claims 1-6 as amended on January 17, 2006 are pending and all were rejected by the Examiner. The Amendment after final rejection of June 14, 2006 was not entered. The rejection of Claims 1-6 is appealed. The pending claims are shown in the attached Claim Appendix.

IV.

STATUS OF AMENDMENTS

In an Amendment of June 6, 2006, filed after the Examiner's final rejection, the Applicant amended Claim 1 for reasons unrelated to the Examiner's rejection. In an advisory action indicated as having been mailed on July 14, 2006, the Examiner refused to enter the June 6, 2006 Amendment on the basis that "Amended claim 1 cites narrower limitation, which would require additional search."

V.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to a breathing valve intended to be used as a speaking valve for patients requiring filtration of inspiration air inhaled via tracheostomas. (*See*, para. [0001])¹. The breathing valve of the present invention generally includes a check valve in the form of a membrane, which opens when the patient inhales and closes when the patient exhales (or speaks), and a filter for filtration and humidification of the inspiration air. (*See*, para. [0001] and [0010]).

Claim 1 is the only independent claim in this application. In Claim 1, a breathing-speaking valve is provided which generally comprises a housing 1, a membrane 10, and a filter 7. (*See*, para. [0008]-[0009], Fig. 1, and Claim 1). The housing 1 comprises a bottom 2 for attaching to a tracheal tube, a number of ribs 5, and a nipple 6. (*See*, para. [0008]-[0009], Fig. 1, and Claim 1).

The membrane 10 serves as a check valve which opens when the patient inhales and closes when the patient exhales. (*See*, para. [0008]-[0009], Fig. 1, and Claim 1). When the membrane 10 closes, exhaling is done through the natural respirator passages and thus the patient is able to speak in a common way. (*See*, para. [0009]).

The filter 7, which is located within the membrane 10 (in other words, inside of the housing between the membrane 10 and the bottom 2), is for filtering the inspiration air. (*See*, para. [0008]-[0009], Fig. 1, and Claim 1). The filter 7 lays against the ribs 5 in the bottom 2 of the housing 1. (*See*, para. [0008]-[0009], Fig. 1, and Claim 1). This

¹ All references to the application herein are made to the published application, US2005/0072431.

configuration – i.e. the filter 7 laying against the ribs 5 – prevents the filter 7 from being pressed down against the bottom 2 of the housing 1, a problem inherent in the prior art. (*See*, para. [0002], [0005], [0008]-[0009], Fig. 1, and Claim 1).

The nipple 6 is for connection to an oxygen apparatus for oxygen delivery to the inspiration air and is mounted substantially perpendicular to the longitudinal direction of the valve housing 1. (*See*, para. [0008]-[0009], Fig. 1, and Claim 1). The nipple 6 opens both into a space 14 defined by the ribs 5 and the bottom 2 of the valve housing and into the filter 7 parallel to the extension of the filter 7. (*See*, para. [0008]-[0009], Fig. 1, and Claim 1). This configuration, whereby the oxygen enters into both the space 14 defined by the ribs 5 and the filter 7, enhances the mixing of the inspiration air with the oxygen. (*See*, para. [0005] and Claim 1). Furthermore, this configuration is believed to enhance the effectiveness of the filter as a humidifier when the breathing-speaking valve of Claim 1 is combined with the external humidifier of dependent Claims 2 and 3; i.e., moisture is supplied directly to the filter through the nipple. (*See*, para. [0010], Fig. 1, and Claims 1-3).

VI.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

- A.** Whether Claims 1-3 are unpatentable under 35 U.S.C. 102(b) as being anticipated by Andersson (US Patent No. 4,971,054).
- B.** Whether Claims 4-6 are unpatentable under 35 U.S.C. 103(a) over Andersson.

VII.

ARGUMENT

A. **Claims 1-3 are not anticipated by Andersson (US Patent No. 4,971,054)**

The Appellant respectfully disagrees with the Examiner's conclusions regarding the patentability of Claims 1-3 over Andersson (US Patent No. 4,971,054). Each and every one of the Examiner's rejections relies on the Andersson breathing valve for its purported disclosure of a filter laying against a number of ribs in the bottom of the valve housing and a nipple opening both into a space defined by the ribs and the bottom of the valve and into the filter parallel to the extension of the filter. (*See*, Examiner's Final Office Action of April 6, 2006). The Examiner's reliance on Andersson is misplaced for at least the following reasons, which are discussed in detail below: (1) Andersson does not disclose a filter laying against a number of ribs and (2) the nipple of Andersson does not open into the filter parallel to the extension of the filter. For these reasons, the Applicant submits that Claims 1-3 (and claims 4-6 which are dependent upon claim 1) do not read on Andersson.

1. Andersson does not disclose a filter laying against a number of ribs, as called for in Claim 1

Claim 1 of the instant patent application includes the following limitation: "the filter is laying against a number of ribs located in the bottom of the valve housing."

Claim 1 also defines the bottom of the valve to be the point of attachment to a tracheal tube. This configuration – whereby the ribs support the filter – prevents the filter from being pressed down against the bottom of the housing thereby increasing the pressure differential across the valve, a problem inherent in the prior art. (*See*, para. [0002], [0005]).

In the Final Office Action of April 6, 2006, the Examiner asserts that Andersson discloses a filter laying against a number of ribs located in the bottom of the valve housing by reference to Figure 1, reference objects 4 (the purported filter) and 10 (the purported rib). However, as can be seen in Figure 1 of Andersson, which is copied below for the Board's convenience, the purported rib (which is understood by the Appellant to include both reference 10 and 14 below) is not a number of ribs at all but is instead a single ring. (See Andersson, Fig. 1 and Column 1, lines 61-64). Moreover, the purported rib is not located at the bottom of the valve housing – where the Andersson valve is intended to be connected to a tracheal tube - but is instead located at the top. (See Andersson, Fig. 1 and Column 1, lines 42-46).

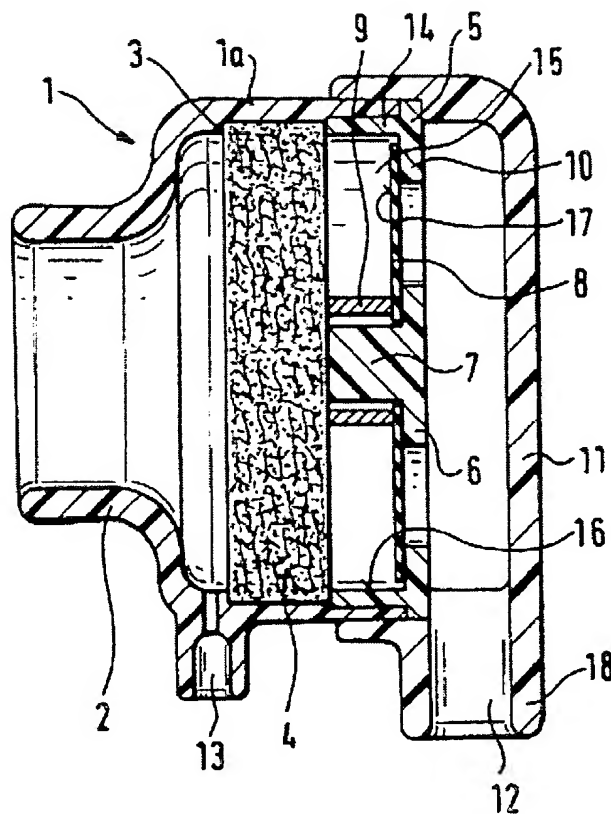


Figure 1 of Andersson

2. Neither of the Andersson nipples cited by the Examiner open into the filter parallel to the extension of the filter

Claim 1 of the instant patent application includes the following limitation: "said nipple opens into a space defined by the ribs and the bottom of the valve housing and also opens into the filter parallel to the extension of the filter." This configuration, whereby the nipple opens into both the space defined by the ribs and the filter, enhances the mixing of the inspiration air with the oxygen and is believed to enhance the effectiveness of the filter as a humidifier, especially when the breathing-speaking valve of Claim 1 is combined with the external humidifier of dependent Claims 2 and 3. (*See* para. [0010]).

In the Final Office Action of April 6, 2006, in asserting that this limitation is met, the Examiner states "fig. 1 seems to depict filter parallel to the ribs." However, this claim limitation does not call for the filter to be parallel to the ribs. Instead, this limitation calls for: (a) the nipple to open into a space defined by the ribs and the bottom of the valve housing; and (b) the nipple to also open into the filter parallel to the extension of the filter. Both requirements (a) and (b) of this limitation are clearly not taught or suggested by Andersson because Andersson does not teach ribs (see discussion above) or a space defined by ribs and the bottom of the valve housing. Even if the Examiner was correct that Andersson reference numeral 10 was a rib, the nipple (reference numeral 13) does not open into a space defined by such component. (*See* Andersson, Fig. 1). Moreover, the nipple in Andersson does not open **into** the filter (reference numeral 4). (*See* Andersson, Fig. 1). Instead, the nipple of Andersson opens into a space outside of the filter, to the left of the filter as shown in the Figure 1 of Andersson. (*See* Andersson, Fig. 1).

B. Claims 4-6 are not obvious in view of Andersson since the dimensional limitations of the claims allow the breathing-speaking valve to be hidden behind clothing

Claims 4-6 define permissible ranges of dimensions for the thickness of the filter, the height of the ribs, and the diameter of the nipple. For example, claim 4 defines that the thickness of the filter is between 0.5 and 3.0 mm, claim 5 defines that the height of the ribs is between 0.5 and 3.0 mm, and claim 6 defines that the nipple for oxygen delivery has a diameter between 1.5 and 5.5 mm. While the Examiner admitted in paragraph 8 of the Final Office Action that Andersson does not teach these dimensional limitations, the Examiner nevertheless rejected the claims on the basis that the Applicant has not establish criticalities associated with these dimension.

Contrary to the Examiner's assertion, the Applicants respectfully submit that the specification sets forth how these dimensions are critical to the invention. As described in paragraph [0002], the prior art valves are large and clumsy and therefore difficult for the patient to hide behind collars, scarves, etc. In contrast to the prior art, the valve of the present invention is small and easy to hide underneath a collar, a shawl or the like. (See para. [0006]). The relatively small dimensions of the filter, ribs, and nipple contribute to the small size of the valve – wherein a preferred valve has a total length of about only 22 mm, of which only a length of 10 mm extends out from the tracheal tube. (See para. [0009]).

For the reasons advanced above, Appellant respectfully contends that each claim is patentable. Therefore, reversal of all rejections is respectfully requested.

DATE *20 Sept 2006*

Respectfully,

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A handwritten signature in dark ink, appearing to read 'D. Tallitsch', written over a horizontal line.

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Reg. No. 55,821

VIII.

CLAIMS APPENDIX

Claim 1. (previously submitted): A breathing-speaking valve intended to be used as a speaking valve for patients requiring filtration of inspiration air inhaled via tracheostomas mounted on a trachea tube, which breathing-speaking valve includes a valve housing intended to be attached, via its bottom, to the trachea tube and which comprises a check valve in the form of a membrane, which check valve opens when the patient inhales and closes when the patient exhales and a filter for filtration of the inspiration air, which filter is located within this membrane, characterized in that the filter is laying against a number of ribs located in the bottom of the valve housing and a nipple for connection to an oxygen apparatus for oxygen delivery to the inspiration air and mounted substantially perpendicular to a longitudinal direction of the valve housing by the bottom of the valve housing, and said nipple opens into a space defined by the ribs and the bottom of the valve housing and also opens into the filter parallel to the extension of the filter, whereby the distribution of the inspiration air and the optional oxygen delivery into the trachea tube takes place in said space and in the filter.

2. (previously submitted) Breathing valve according to claim 1, characterized in that an external humidifier is mounted to deliver humidity to the filter.

3. (previously submitted) Breathing valve according to claim 2, characterized in that the humidifier is connected to the oxygen nipple or to a special nipple on this oxygen nipple.

4. (previously submitted) Breathing valve according to claim 1, characterized in that the thickness of the filter is between 0,5 and 3,0 mm, preferably 2 mm.

5. (previously submitted) Breathing valve according to claim 1, characterized in that height of the ribs are between 0,5 and 3,0 mm, preferably 1 mm.

6. (previously submitted) Breathing valve according to claim 1, characterized in that the nipple for oxygen delivery have a diameter between 1,5 and 5,5 mm.

IX.

EVIDENCE APPENDIX

No evidence submitted.

X.

RELATED APPEALS AND INTERFERENCES APPENDIX

None.